



THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

QUIGLEY *et al.*

Appl. No.: 09/710,238

Filed: November 9, 2000

For: **Pre-Equalization Technique for
Upstream Communication Between
Cable Modem and Headend**

Confirmation No.: 4904

Art Unit: 2667

Examiner: Boakye, A.

Atty. Docket: 1875.132000G

Fourth Supplemental Information Disclosure Statement

Mail Stop RCE

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Listed on accompanying IDS Forms are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Applicants have listed publication dates on the attached IDS Forms based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent

application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- ☐ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement.
- ☒ 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed within three months of the date of filing of a national application other than a continued prosecution application (CPA), OR within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, OR before the mailing date of a first Office Action on the merits OR before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No statement or fee is required.
- ☐ 3. Filing under 37 C.F.R. § 1.97(c). This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application.

- ☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure

Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

☐ c. Attached is our PTO-2038 Credit Card Payment Form in the amount of \$_____ in payment of the fee under 37 C.F.R. § 1.17(p).

☐ 4. Filing under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Enclosed find our PTO-2038 Credit Card Payment Form in the amount of \$_____ in payment of the fee under 37 C.F.R. § 1.17(p); in addition:

☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign

patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

- ☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- ☐ 5. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.
- ☐ 6. A concise explanation of the relevance of the non-English language document(s) appears below in accordance with 37 C.F.R. § 1.98(a)(3).
- ☒ 7. Copies of documents FP1 and NPL1 - NPL5 are submitted. However, in accordance with 37 C.F.R. § 1.98(a)(2), no copies of U.S. patents and patent application publications cited on the attached IDS Forms are submitted.
- ☐ 8. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. _____, filed

_____, which is relied upon for an earlier filing date under 35 U.S.C.
§ 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

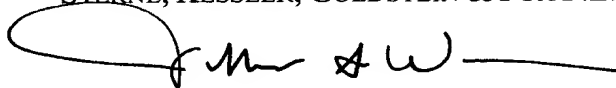
- ☐ 9. It is expected that the examiner will review the prosecution and cited art in the parent application no(s). _____ in accordance with MPEP 2001.06(b), and indicate in the next communication from the office that the art cited in the earlier prosecution history has been reviewed in connection with the present application.

It is respectfully requested that the Examiner initial and return a copy of the enclosed IDS Forms, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



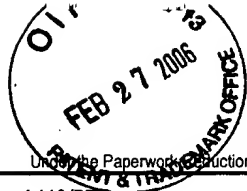
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Date: 2-27-06

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Substitute for form 1449/PTO

**FOURTH SUPPLEMENTAL
INFORMATION DISCLOSURE
STATEMENT BY APPLICANTS**

(Use as many sheets as necessary)

Complete if Known

| | |
|------------------------|-------------------|
| Application Number | 09/710,238 |
| Filing Date | November 9, 2000 |
| First Named Inventor | Thomas J. QUIGLEY |
| Art Unit | 2667 |
| Examiner Name | Boakye, A. |
| Attorney Docket Number | 1875.132000G |

Sheet 1 of 2

U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|-----------------------|--|--------------------------------|--|---|
| | | Number-Kind Code ² (if known) | | | |
| | US1 | 3,839,678 | 10-01-1974 | Bell | |
| | US2 | 5,206,864 | 04-27-1993 | McConnell | |
| | US3 | 5,276,706 | 01-04-1994 | Critchlow | |
| | US4 | 5,491,725 | 02-13-1996 | White | |
| | US5 | 5,533,004 | 07-02-1996 | Jasper et al. | |
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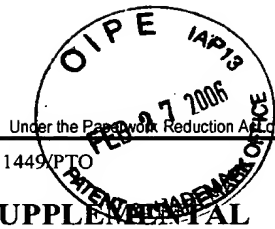
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁶ |
|--------------------|-----------------------|---|--------------------------------|--|---|----------------|
| | | Country Code ³ Number ⁴ Kind Code ⁵ (if known) | | | | |
| | FP1 | WO 98/47236 A1 | 10-22-1998 | Eng | | |
| | FP2 | | | | | |
| | FP3 | | | | | |
| | FP4 | | | | | |
| | FP5 | | | | | |
| | FP6 | | | | | |
| | FP7 | | | | | |
| | FP8 | | | | | |
| | FP9 | | | | | |

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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|--|---|----|---|--------------------------|-------------------|
| FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANTS (Use as many sheets as necessary) | | | | Complete if Known | |
| | | | | Application Number | 09/710,238 |
| | | | | Filing Date | November 9, 2000 |
| | | | | First Named Inventor | Thomas J. QUIGLEY |
| | | | | Art Unit | 2667 |
| | | | | Examiner Name | Boakye, A. |
| Sheet | 2 | of | 2 | Attorney Docket Number | 1875.132000G |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|-----------------------|--|--------------------------------|--|---|
| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number-Kind Code ² (If Known) | | | |
| | US21 | 6,215,792 B1 | 04-10-2001 | Abi-Nassif | |
| | US22 | 6,246,713 B1 | 06-12-2001 | Mattisson | |
| | US23 | 6,438,174 B1 | 08-20-2002 | Isaksson et al. | |
| | US24 | 6,459,703 B1 | 10-01-2002 | Grimwood et al. | |
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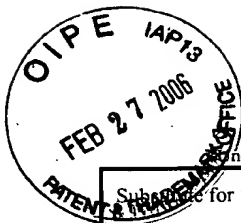
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| | | Country Code ² Number ³ Kind Code ⁵ (if known) | | | | |
| | FP10 | | | | | |
| | FP11 | | | | | |
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| | FP18 | | | | | |

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|--------------------|--|-----------------|--|
| Examiner Signature | | Date Considered | |
|--------------------|--|-----------------|--|

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| | | Art Unit | 2667 | | |
| | | Examiner Name | Boakye, A. | | |
| Sheet 1 | 1 | of | 1 | Attorney Docket Number | 1875.132000G |

| NON PATENT LITERATURE DOCUMENTS | | | |
|---------------------------------|-----------------------|--|----------------|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume issue number(s), publisher, city and/or country where published | T ² |
| | NPL1 | Quigley, T.J. <i>et al.</i> , U.S. Patent Appl. No. 09/714,713, filed November 16, 2000, entitled "Data Packet Fragmentation in a Cable Modem System". | |
| | NPL2 | Quigley, T.J. <i>et al.</i> , U.S. Patent Appl. No. 11/292,098, filed December 2, 2005, entitled "Data Packet Fragmentation in a Cable Modem System". | |
| | NPL3 | Erup, L. <i>et al.</i> , "Interpolation in Digital Modems - Part II: Implementation and Performance," <i>IEEE Transactions on Communications</i> , Vol. 41, No. 6, pp. 998-1008 (June 1993). | |
| | NPL4 | Gardner, F.M., "Interpolation in Digital Modems - Part I: Fundamentals," <i>IEEE Transactions on Communications</i> , Vol. 41, No. 3, pp. 501-507 (March 1993). | |
| | NPL5 | Declaration of Lisa V. Denney, dated March 22, 2004, (7 pages), with Exhibits 1-4. | |
| | NPL6 | | |
| | NPL7 | | |
| | NPL8 | | |
| | NPL9 | | |
| | NPL10 | | |

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| Examiner Signature | Date Considered |
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¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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